

Fox (Geo. H.)

ON THE PERMANENT REMOVAL OF  
HAIR BY ELECTROLYSIS.

BY  
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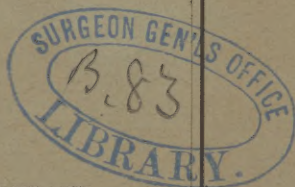
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## PERMANENT REMOVAL OF HAIR BY ELECTROLYSIS.

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NEXT to our sympathy with the man who cannot raise a beard, comes our pity for the woman upon whom Nature has unkindly bestowed one. Her distress need not be pictured, as there is scarcely a physician present who cannot call to mind some lady who has besought him for a remedy to rid her of hair upon the face. What has been done in such a case? Possibly the various depilatories recommended in text-books on Dermatology have been tried and found to be no more serviceable and far more unpleasant than the use of a razor. Possibly an effort has been made to destroy the hairs by inserting hot needles, or injecting acids into the follicles. These means having proved futile, or perhaps harmful, it is possible that a vain attempt has been made to persuade the sufferer that the matter was of little or no consequence, and that cutting the hairs short, or plucking them with tweezers would remedy the evil.

It is quite probable, however, that the statement has been made that *nothing* could be done; and the patient, convinced that something must be done, has finally fallen into the hands of some advertising charlatan, and only yielded to despair after having been thoroughly swindled.

This form of perverted capillary nutrition, which shows itself upon the female face in the form of a promising moustache or beard, is by no means rare. Physicians are not only called upon to treat this, but also the few stiff hairs which are so often seen growing from a small fibrous tumor or pigmented *nævus*. In both these cases it is evident that destruction of the hair papillæ is the only means of radical cure; and in electrolysis we have, I am convinced, the best, if not the only practicable means of accomplishing this end.

To ophthalmology is due the credit of first employing electricity for the purpose of destroying hairs.

Dr. Michel, of St. Louis (Clinical Record, Oct., 1875), recommended electrolysis in the treatment of trichiasis, and employed a method very similar to that which I have found serviceable. Dr. Piffard (Diseases of the Skin) speaks of treating two cases of hairy nævus by electrolysis, and in a paper presented to the American Dermatological Society (Aug., 1878), on the treatment of hirsuties, Dr. Hardaway advocated its use. As far as my knowledge goes, this is the extent of the literature of the subject.

The apparatus required for the operation is an ordinary galvanic battery, with a needle or fine wire attached to the negative electrode, and a sponge-tipped positive electrode, which should be applied to the skin as near as convenient to the field of operation. In my first attempts I introduced into the follicle a fine cambric needle, wound to within a quarter of an inch of the point, with a copper wire which joined it to the negative cord of the battery. This simple contrivance will answer the purpose, although a better substitute I have found in a fine flexible steel needle, used by dentists in extracting nerves. This needle, together with a convenient handle or holder, can be obtained from any dental-instrument dealer, and is readily attached to the battery cord.

In many cases where the hair follicles are large, as they are apt to be upon the cheeks, a fine platinum wire is superior to any form of needle. It can be filed to a point by means of a jeweler's file, and by virtue of its flexibility it will reach the bottom of the follicle (the hair having been previously extracted), while a stiff and sharp needle would pierce the follicular wall and fail to reach the hair papilla. In fact, whenever a needle is employed, the direction of the hair must be carefully noted or the needle will certainly go wide of its mark and fail to accomplish the destruction of the hair. On the other hand, a fine, soft, flexible wire will follow the course of the follicle in some instances, as a soft rubber catheter follows the curve of the urethra in its introduction into the bladder. Where, however, the follicles are naturally small, as about the neck, no matter how coarse the hairs may be, the soft wire will either bend upon itself or pierce the wall of the follicle and go in a wrong direction. In such a case it is better to use the stiff needle and introduce it in the direction of the supposed site of the papilla.

In operating, a strong light is essential to success.



The patient should sit by a large window and preferably in the sunlight. Where the hairs are numerous and the follicles small, the eyes of the operator soon tire, and a séance of more than a half or three-quarters of an hour is apt to become both unpleasant and unprofitable. The use of a lens has been recommended, but as both hands are generally employed in the operation, I cannot see how it could be conveniently used unless fitted to the eye.

The extraction of the hair should precede the introduction of the needle or wire, in all cases where the follicle is of large size. In case of fine hairs, however, it is unadvisable. Often when a fine hair is extracted it is not an easy matter to see the mouth of the follicle. If the light is at all dull or the eye fatigued, the follicle from which the hair has been extracted, is lost, and there is little certainty of introducing the needle at the right point. Moreover, if the hair be allowed to remain, tension upon it will usually reveal the direction of the follicular portion, and the needle introduced at the mouth of the follicle and pressed down into the skin as near to the hair-root as possible, will be far more apt to reach or approach the papilla than as though it had been introduced into the follicle after the extraction of the hair. Upon the cheeks and chin, where the skin is thick and the follicles slightly patulous, I have found it convenient to use the soft platinum wire *after* removal of the hair. Beneath the chin, however, and upon the neck where the skin is comparatively thin, I prefer to use the stiff, yet flexible needle, introducing it *before* removal of the hair. There is one advantage lost by removing the hair before the introduction of the needle. We have in that case no test of the successful result of the electrolytic action. On the other hand, if the hair be not extracted at the outset, we can judge of the effect produced by the electrolysis. If the hair comes out when pulled very gently, it is probable that the papilla is destroyed, but if upon traction with the epilating forceps it seems to be as firmly rooted as at first, it is a proof of the inefficacy of the operation, and suggests a re-introduction of the needle and repetition of the electrolysis.

As regards the strength of the current to be used, no absolute rule can be laid down. The stronger the current, the more rapid will be the effect and the greater will be the pain. From five to ten cells of the ordinary zinc and carbon battery may be used,

the number selected being dependent upon the susceptibility to pain and the courage of the patient. In no case can the hair papilla be destroyed without some pain, and the patient will naturally stand a trifle more when there are only one or two hairs to be destroyed, than when there are several hundred. The current must be strong enough to cause decomposition of tissue, which will be manifested by the escape of fine bubbles or froth, by the side of the needle at the mouth of the follicle. When the patient is not particularly sensitive, a sufficient number of cells may be employed to produce this peculiar frying of the tissue immediately after the commencement of electrolytic action. With a weaker current this escape of bubbles may not be noticed until a few seconds after the completion of the circuit.

The first effect of the operation is to produce a small whitish elevation around the mouth of the follicle; in fact an urticarial wheal. After a protracted sitting, the part operated upon will be acutely congested and somewhat swollen, and the number of hairs operated on can usually be determined by gently passing the finger over the skin and counting the number of small lumps resulting from peri-follicular exudation. On the following day the diffused congestion will have disappeared and left a number of red papules or small pustules at the mouths of the follicles. These quickly disappear, and we have only to wait patiently for a few weeks to determine how many hairs have escaped destruction. Without an unusual amount of skill and practice on the part of the operator a certain number are almost sure to grow again, and of course the operation must be repeated until all are destroyed. When there are but one or two strong hairs growing upon the cheek from a small hypertrophic nævus, both the hairs and the "wart" from which they spring can be easily destroyed by a single operation, but when a patient has several hundred scattered hairs growing upon her cheeks and chin, successful treatment will require much time and patience. The soft, downy hairs which often grow luxuriantly upon the upper lip and cheeks of certain women, are not amenable to treatment, and fortunately, these are not incompatible with female beauty. But whenever the hairs grow long and strong and dark, producing a serious disfigurement, it can be safely asserted that they may be permanently removed by means of electrolysis.



